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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,107	09/17/2003	Joseph HengTung Lau	STL11263	4741

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EXAMINER	
RENNER, CRAIG A	

ART UNIT	PAPER NUMBER
2652	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,107	LAU ET AL.	
	Examiner	Art Unit	
	Craig A. Renner	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *12-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 September 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *17 September 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of "clams 1-11 and 17 (Group I)" in the reply filed on 28 October 2005 is acknowledged. Accordingly, claims 12-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to one or more non-elected inventions/species, there being no allowable generic or linking claim.

Drawings

2. The drawings are objected to because of the following informalities:

a. The drawings fail to comply with 37 CFR 1.84(p)(4) because a single reference character has been used to designate plural distinct components. Note, for instance, that reference character "316" has been used to designate both an "abutment surface" (as shown in FIG. 2, for instance, and as initially disclosed in line 26 on page 5, for instance) and "bearings" (as shown in FIG. 3, for instance, and as initially disclosed in line 13 on page 5, for instance).

b. In FIG. 4, reference character "316" should be changed to --136-- in order to be consistent with the remainder of the disclosure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing

sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. The abstract of the disclosure is objected to because it is not "within the range of 50 to 150 words." Appropriate correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

a. In line 8 on page 4, "actuator assembly **126**" should be changed to --actuator assembly **200**-- in order to be consistent with the remainder of the disclosure.

b. In line 8 on page 4, "pivot mechanism **310**" should be changed to --pivot mechanism **300**-- in order to be consistent with the remainder of the disclosure

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 9-11 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In line 5 of claim 9, "the rotator" is indefinite because it lacks clear and/or proper antecedent basis.

b. In line 6 of claim 9, it is indefinite as to whether "the base" refers to that set forth in line 3 of independent claim 1, or that set forth in line 2 of claim 9.

c. Claims 10 and 11 inherit the indefiniteness associated with base claim 9 and stand rejected as well.

d. In line 4 of claim 17, "the rotator" is indefinite because it lacks clear and/or proper antecedent basis.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-4, 6-7, 9-11, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sogabe (US 5,491,599).

With respect to claims 1-4, 6-7, and 9-11, Sogabe teaches an actuator assembly comprising a pivot assembly comprising a first portion (outer race of bearing 25, for instance) configured to be fixed with respect to a base (10b); and a second portion (23) movable with respect to the first portion; and an actuator (20) mounted to the second portion by a metallurgical bond (lines 6-13 in column 5, for instance, i.e., "spot welding") [as per claim 1]; wherein the second portion further comprises a sleeve (30); and a flange (31) extending transversely from the sleeve [as per claim 2]; wherein the actuator touches the flange (as shown in FIG. 7, for instance) [as per claim 3]; wherein the actuator is metallurgically bonded to the flange (lines 6-13 in column 5, for instance) [as per claim 4]; wherein the actuator further defines an aperture (20a) sized to receive the second portion [as per claim 6]; wherein the metallurgical bond is a weld (lines 6-13 in column 5, for instance) [as per claim 7]; wherein the actuator assembly is a component of a data storage device comprising a base (10b); a storage medium (11); wherein the actuator is configured to access the storage medium (as shown in FIG. 1, for instance) and the rotator is mounted to the base (as shown in FIG. 3, for instance) [as per claim 9]; wherein the storage medium comprises a rotatable disc (lines 48-49 in column 3, for

instance) [as per claim 10]; and wherein the storage medium comprises a magnetic medium (lines 48-49 in column 3, for instance) [as per claim 11]. As the claims are directed to an "actuator assembly", per se, the method limitation appearing in line 2 of claim 7 can only be accorded weight to the extent that it affects the structure of the completed actuator assembly. Note that "[d]etermination of patentability in 'product-by-process' claims is based on product itself, even though such claims are limited and defined by process [i.e., "produced by laser welding", for instance], and thus product in such claim is unpatentable if it is the same as, or obvious form, product of prior art, even if prior product was made by a different process", *In re Thorpe, et al.*, 227 USPQ 964 (CAFC 1985). Furthermore, note that a "[p]roduct-by-process claim, although reciting subject matter of claim in terms of how it is made [i.e., "produced by laser welding", for instance], is still product claim; it is patentability of product claimed and not recited process steps that must be established, in spite of fact that claim may recite only process limitations", *In re Hirao and Sato*, 190 USPQ 685 (CCPA 1976).

With respect to claim 17, Sogabe teaches an actuator assembly comprising a pivot mechanism (includes 23, for instance); an actuator arm (20); and means for bonding the actuator arm directly to the rotator (lines 6-13 in column 5, for instance, at least in an equivalent structural sense).

10. Claims 1, 6-10, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Lindrose (US 6,744,605).

With respect to claims 1 and 6-10, Lindrose teaches an actuator assembly comprising a pivot assembly comprising a first portion (410 or 460) configured to be fixed with respect to a base (110); and a second portion (430) movable with respect to the first portion; and an actuator (300) mounted to the second portion by a metallurgical bond (lines 38-41 in column 4, for instance, i.e., "welding") [as per claim 1]; wherein the actuator further defines an aperture (adjacent 380) sized to receive the second portion (as shown in Figs. 3 and 4) [as per claim 6]; wherein the metallurgical bond is a weld (lines 38-41 in column 4, for instance) [as per claim 7]; wherein the actuator further comprises an actuator arm (adjacent 320) and a voice coil (330) support (adjacent 330) extending in generally opposite directions away from the second portion (as shown in Figs. 1 and 2, for instance) [as per claim 8]; wherein the actuator assembly is a component of a data storage device (100) comprising a base (110); a storage medium (200); wherein the actuator is configured to access the storage medium (as shown in Figs. 1 and 5-6, for instance) and the rotator is mounted to the base (as shown in Figs. 3 and 4, for instance) [as per claim 9]; and wherein the storage medium comprises a rotatable disc (as shown in Fig. 1, for instance) [as per claim 10]. As the claims are directed to an "actuator assembly", per se, the method limitation appearing in line 2 of claim 7 can only be accorded weight to the extent that it affects the structure of the completed actuator assembly. Note that "[d]etermination of patentability in 'product-by-process' claims is based on product itself, even though such claims are limited and defined by process [i.e., "produced by laser welding", for instance], and thus product in such claim is unpatentable if it is the same as, or obvious form, product of prior art, even

if prior product was made by a different process", *In re Thorpe, et al.*, 227 USPQ 964 (CAFC 1985). Furthermore, note that a "[p]roduct-by-process claim, although reciting subject matter of claim in terms of how it is made [i.e., "produced by laser welding", for instance], is still product claim; it is patentability of product claimed and not recited process steps that must be established, in spite of fact that claim may recite only process limitations", *In re Hirao and Sato*, 190 USPQ 685 (CCPA 1976).

With respect to claim 17, Lindrose teaches an actuator assembly comprising a pivot mechanism (includes 430, for instance); an actuator arm (300); and means for bonding the actuator arm directly to the rotator (lines 38-41 in column 4, for instance, at least in an equivalent structural sense).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mastache et al. (US 5,579,190) in view of Robinson et al. (US 5,529,404).

Mastache teaches an actuator assembly comprising a pivot assembly comprising a first portion (outer race of bearing 9c) configured to be fixed with respect to a base (1); and a second portion (includes 9a, for instance) movable with respect to the first portion; and an actuator (includes 5a, for instance) mounted to the second portion (as shown in FIG. 3, for instance) [as per claim 1]; wherein the second portion further comprises a sleeve (9a); and a flange (9d) extending transversely from the sleeve [as per claim 2]; and wherein the actuator touches the flange (as shown in FIG. 3, for instance) [as per claims 3 and 5]. Mastache, however, remains silent as to the actuator being "metallurgically bonded to the sleeve."

Robinson teaches an actuator (62) being metallurgically bonded (lines 24-29 in column 5, for instance, i.e., "heat shrinking", for instance) to a sleeve (80) in the same field of endeavor for the purpose of enabling a reliable bond while avoiding adhesive out-gassing problems. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the actuator of Mastache be metallurgically bonded to the sleeve as taught by Robinson. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the actuator of Mastache be metallurgically bonded to the sleeve as taught by Robinson since such enables a reliable bond while avoiding adhesive out-gassing problems.

14. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohei et al. (US 2001/0040771) in view Robinson et al. (US 5,529,404).

Kohei teaches an actuator assembly comprising a pivot assembly comprising a first portion (25) configured to be fixed with respect to a base (11, as shown in FIGS. 1A and 1B, for instance); and a second portion (20) movable with respect to the first portion; and an actuator (21-1, for instance) mounted to the second portion (as shown in FIG. 1B, for instance) [as per claim 1]; wherein the second portion further comprises a sleeve; and a flange extending transversely from the sleeve (as shown in FIGS. 1B and 2, for instance) [as per claim 2]; and wherein the actuator touches the flange (as shown in FIG. 1B, for instance) [as per claims 3 and 5]. Kohei, however, remains silent as to the actuator being "metallurgically bonded to the sleeve."

Robinson teaches an actuator (62) being metallurgically bonded (lines 24-29 in column 5, for instance, i.e., "heat shrinking", for instance) to a sleeve (80) in the same field of endeavor for the purpose of enabling a reliable bond while avoiding adhesive out-gassing problems. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the actuator of Kohei be metallurgically bonded to the sleeve as taught by Robinson. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the actuator of Kohei be metallurgically bonded to the sleeve as taught by Robinson since such enables a reliable bond while avoiding adhesive out-gassing problems.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Craig A. Renner
Primary Examiner
Art Unit 2652

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